UNION SWITCH & SIGNAL . . . SWISSVALE, PA.
DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

STYLE RS
SHEET STEEL
INSTRUMENT CASE

Obsolete

The information contained in U.D. 277 is now obsolete. Please remove it from your UNION DEVELOPMENT binder and destroy.

The latest information is now shown in your UNION RAILWAY EQUIPMENT CATALOG (Brown cover, 8-1/2 x 11").

See PLATE L2-1

This notice should be inserted in place of U.D. 277 to help you find the latest information concerning Style RS sheet steel Instrument Cases.

"UNION"
DEVELOPMENT U.D. 277

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STYLE RS SHEET STEEL INSTRUMENT CASE

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The Style RS (removable shelf) Sheet Steel Instrument Case provides a new case with movable shelves and chases, and removable back board floor angle. It is a further development of the Style S instrument case and provides flexible arrangements designed to take care of the various installations required by field conditions. Through the use of movable shelves and chases and removable back board floor angle - shelf spacing, chase spacing, and back board can be arranged in the field as required, and the instrument case can be wired with or without shelves installed.

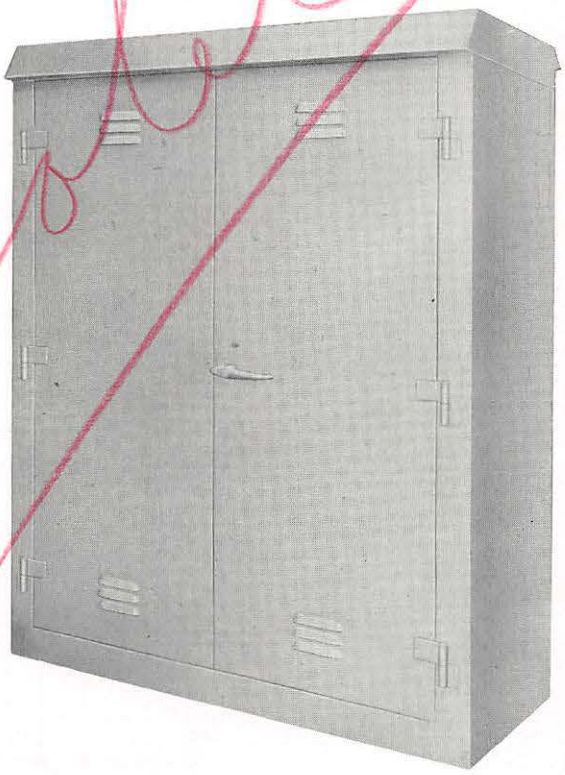


Fig. 1 . . . Type RS Sheet Steel Instrument Case.

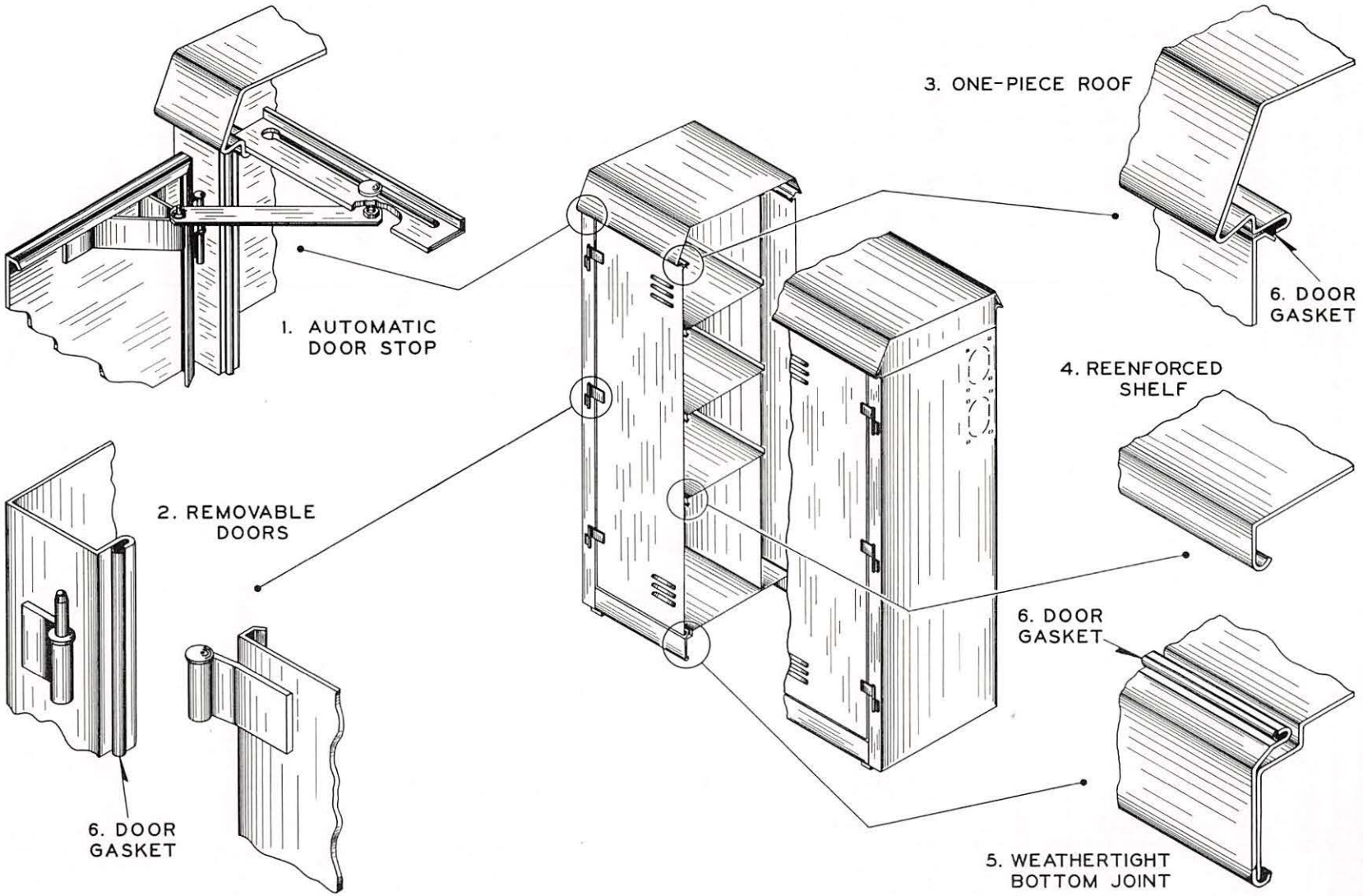


Fig. 2 . . . Improvements in Design.

The Style RS case is available arranged for shelf type mounting with full back board, for shelf type mounting with tag board type chase, for shelf type mounting with steel chase having large holes for groups of wires, and for wall type mounting.

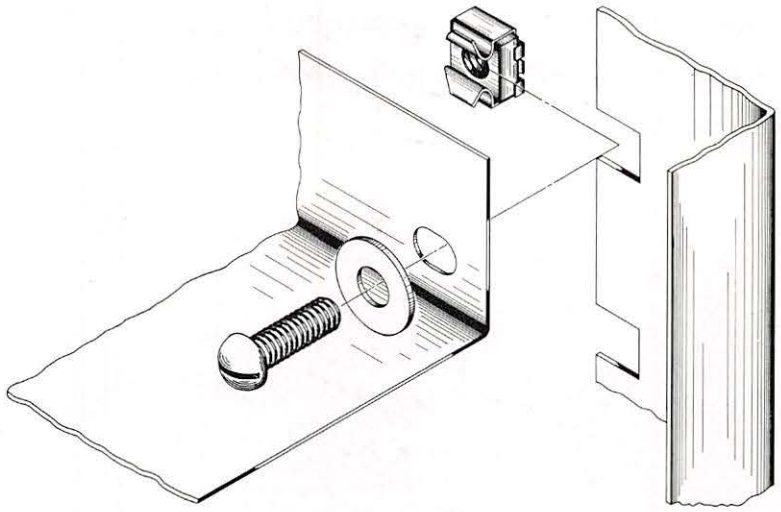


Fig. 3 . . . Assembly of Shelves (or Chases) to Supporting Angles.

In addition to the new features of movable and removable shelves and chases, and removable back board floor angle the Style RS case has the following outstanding features. (See Fig. 2)

1. The doors are assembled with an inside, sliding door stop which automatically stops the door in either the 90-degree or 180-degree open position.

2. The doors are removable, being assembled to the case with "come apart hinges".

3. The roof is in one piece. This eliminates lap joints over the front and rear doors and makes impossible the passage of dust and snow.

4. The shelves have been stiffened by the addition of an extra bend along the front edge.

5. The bottom of the four sides is bent to form a groove to wrap upward over the bottom edges of the base. This groove is filled with caulking and when pressed on the base makes a weathertight joint.

6. The front and rear doors are tightly sealed by the use of an all-weather neoprene covered sponge rubber gasket.

GENERAL DESCRIPTION

The basic case consists of a shell having bolted-on removable back panels and hinged removable front doors. Vertical supporting angles are provided on each side (and in the middle of larger cases) for mounting one or more sections of backboard, movable chases, and movable shelves. These vertical angles are provided with notches (see Fig. 3) which allow for assembly of shelves or chases in 2" vertical increments by bolting them in place to "snap-in" nuts for which slots are provided.

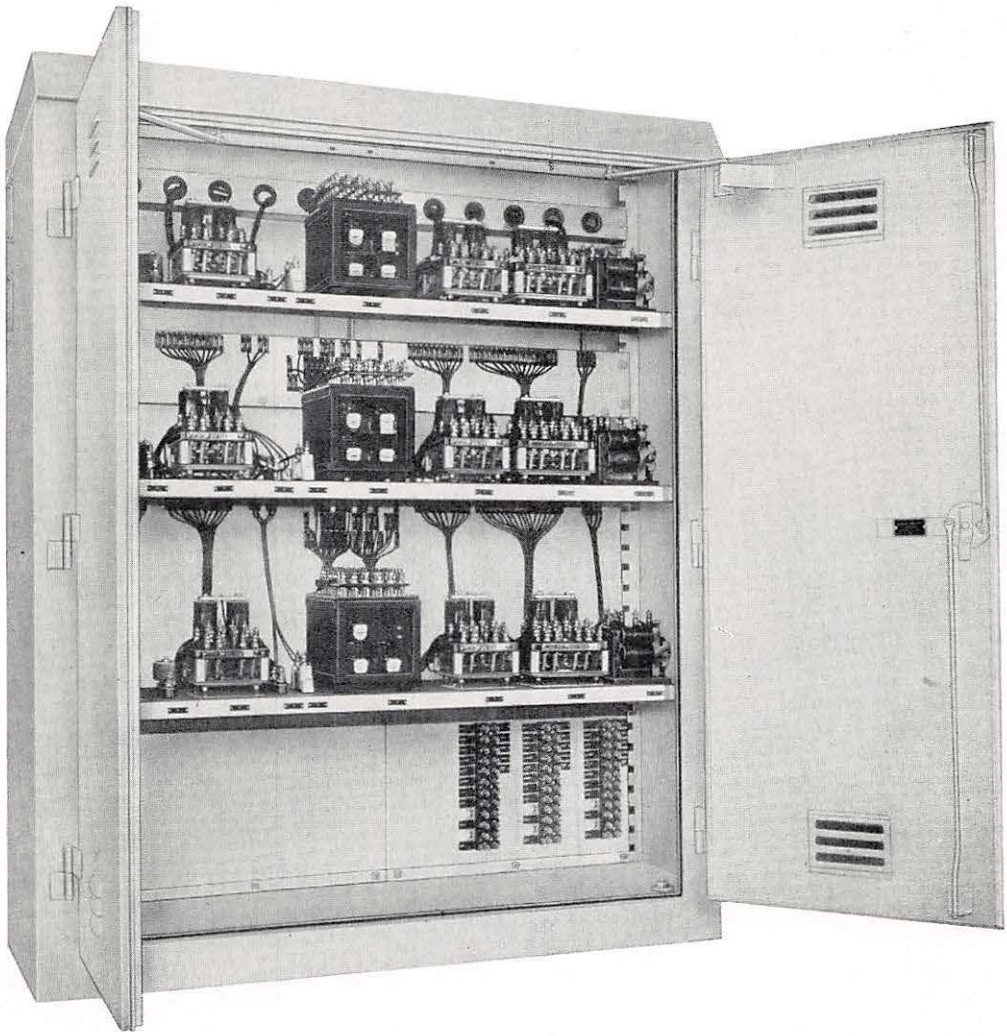


Fig. 4
Style RS (Removable Shelf) Instrument Case--4'11" wide, 3-shelf height (5'6" door opening)--assembled to illustrate 3 basic wiring and shelf arrangements for standard instruments.

Top shelf: Wiring arrangement B
Center shelf: Wiring arrangement A
Bottom shelf: Wiring arrangement C

The 6'-9" and 9'-8" cases have a center post between the doors, and two half shelves instead of one full shelf are used. It is possible to assemble half shelves in either side of the case and any combination of half shelves can be made.

The cases are made in the same widths as the former Style S case, namely, 2'-7 1/2", 3'-3 1/2", 4'-11", 6'-9", and 9'-8". All of these widths can be furnished in the 3-shelf height (5'-6" door opening). The 2'-7 1/2" and 3'-3 1/2" wide cases can also be furnished in the 2-shelf height (3'-9" door opening).

The foundation bolt spacing is the same as previously used for the Style S cases; namely, 18 1/2" from front bolt to rear bolt (longitudinal bolt spacing depends on width of case). The foundation bolts (3/4" diameter) are located inside the case. (See Fig. 4)

The high cases (5'-6" door) have two "knockouts" on each side for aerial cable outlets. The low cases (3'-9" door) have one "knockout" on each side. Knockouts are provided in the rear of the base for maximum number of parkway cable outlets. In ordering, the number of aerial outlets and number of parkway cable outlets required should be specified. These outlets will be shipped loose for installation in the field.

The RS Cases are made of copper bearing, rust-resisting sheet steel using #14 gauge for sides and roof, #12 gauge for doors, and #11 gauge for the base. The construction employs relatively few individual pieces through the use of machinery to bend and re-inforce large sections of material. Spot and seam welding are used for the assembly.

ARRANGEMENT POSSIBILITIES FOR CONVENTIONAL RELAYS AND INSTRUMENTS

Each of the case sizes can be furnished with the following five basic arrangements: (See Fig. 5)

1. Instrument case shell only, without backboard, chases, or shelves.
2. Instrument case for wall type mounting, with backboard.
3. Instrument case for shelf type mounting, with backboard and steel shelves (two shelves for 3'-9" door height and three shelves for 5'-6" door height standard equipment).

4. Instrument case for shelf type mounting, without backboard but with tag board type chases and steel shelves (two of each for 3'-9" door height and three of each for 5'-6" door height). With bottom terminal board.

5. Instrument case for shelf type mounting, without backboard but with steel chases having large holes with grommets for wire groups, steel shelves (two of each for 3'-9" door height and three of each for 5'-6" door height). With bottom terminal board.

With the five basic arrangements described above, it is possible, due to the movable chase and movable shelf construction, to make up any combination in the field, necessitated by local conditions.

The cases lend themselves to backboard wiring with or without shelves. The arrangements which use chases without backboards lend themselves to one man wiring from the front. Shelves can be removed, if desirable, during the wiring process. Shelves and chases can be arranged in any manner. Wires can be identified by flat tags on the backboard or on tag board type chase or by sleeve tags in case of the steel chase with grommets. (See ordering reference tabulations which follow.)

ARRANGEMENT POSSIBILITIES FOR PLUG-IN RELAYS

The RS case lends itself to two basic arrangements for plug-in relays: (See Fig. 6)

1. Relay bases permanently attached to horizontal metal relay supports so that wiring and servicing of relay terminals can be done from the rear.

2. Relays mounted on slides on a steel shelf in such a manner that each relay can be individually slid forward, turned around and reinserted in the slide for wiring and servicing from the front.

In the first arrangement, the RS case consists of the shell, movable horizontal relay supports with metal chases in the rear having large wire holes with rubber grommets, and bottom terminal board.

In the second arrangement, the RS case consists of the shell, movable shelves equipped with slides, front chases which have large wire holes with rubber grommets and bottom terminal board.

In either of the above arrangements, this case can be furnished for one, two, or three rows of plug relays with a bottom board for conventional instruments and/or terminals. (See ordering reference tabulations which follow.)

MODIFICATIONS IN THE FIELD

If certain modifications such as adding extra shelves, horizontal relay supports, or chases to the basic arrangement are required in the field, these can easily be made by ordering the necessary parts. For this purpose, we are showing in the tabulation and figures which follow, ordering references for such parts. Thus, it is possible to put together in the field an arrangement for instance, such as 4'-11" case, 5'-9" door height, two rows of plug-in relays, one shelf with tag board type chase for conventional relays and bottom terminal board by ordering the case shell and necessary shelves, relay supports and chases to assemble such a combination. It can readily be seen that the combinations are innumerable and sufficient to satisfy any need.

FACTORY WIRING

For factory wiring there are available four arrangements for conventional relays and two arrangements for plug-in relays.

The wiring arrangements for conventional relays are as follows: (See Fig. 4)

A. Shelf mounted instruments with tag board type chase, with individual wire holes and flat (plastic or fibre) tags fastened to front of chase. (Wiring Arrangement A)

B. Shelf mounted instruments with steel chases having large holes with rubber grommets for groups of wires with plastic sleeve type identification tags. (Wiring Arrangement B)

C. Shelf mounted instruments with backboard with individual wire holes and flat (plastic or fibre) tags fastened to backboard. (Wiring Arrangement C)

D. Wall type wiring - Similar to Wiring Arrangement C.

The arrangements for plug-in relays are as follows:

E. Relays mounted in horizontal rows with steel chases having large holes with rubber grommets and wiring in the rear with plastic sleeve type identification tags. (See Fig. 6)

F. Plug-in relays mounted in slides on shelves with steel chases having large holes with rubber grommets for groups of wires, wired from the front with sufficient slack to reach to the rear of the relay, with plastic split sleeve identification tags. (See Fig. 7)

PAINTING - STANDARD

Outside painting consists of:

1 Coat of zinc chromate primer

2 Coats of aluminum

1 Coat of mastic under base.

Inside metal parts are painted with:

1 Coat of zinc chromate primer

2 Coats of aluminum

1 Coat of clear varnish.

Plywood boards are painted with:

1 Coat of primer

2 Coats of aluminum

1 Coat of clear varnish.

SHIPPING

Cases having chases and shelves will be shipped with the chases and shelves spaced as shown in the figures accompanying the ordering references. It is assumed that usually the shelves will be removed in the field during the wiring process. The chases can also be moved if necessary.

The case is then wired, following which shelves are installed in their proper places, instruments are installed and connected.

ORDERING REFERENCES

Figures and tabulations which follow show piece number references for the five basic arrangements for conventional instruments and two basic arrangements for plug-in relays, for each size of case. The number of aerial and parkway cable outlets should be specified separately.

Orders should read as follows:

(Example)

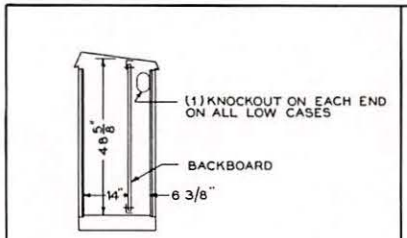
1 - Style RS 4'-11" sheet steel instrument case Pc. No._____ for shelf mounting without backboard, with plywood tag board type chases and plywood bottom terminal board. With two aerial cable outlets Pc. No._____, and three parkway cable outlets Pc. No._____.

When ordering factory wired cases, customer should specify arrangement of case as well as arrangement of wiring whether A, B, C, D, E, or F. Orders should read as follows:

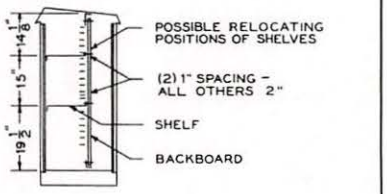
(Example)

1 - Factory wired 4'-11" Style RS sheet steel instrument case, Pc. No._____, for shelf mounting without backboard, with steel grommet hole type chases and plywood bottom terminal board, wiring arrangement B. With two aerial cable outlets Pc. No._____ and four parkway cable outlets Pc. No._____.

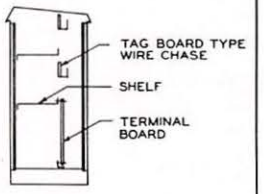
J. C. Michley
General Sales Manager



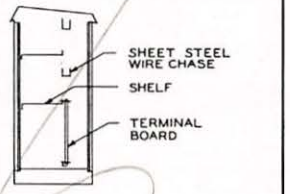
ORDERING REFERENCE D2638	SH.	SIZE	BACK BOARDS
UN318710-003	7	2FT-7½	NONE
UN318711	7A	2FT-7½	PLYWOOD
UN318712	7A	2FT-7½	TRANSITE
UN318434-003	6	3FT-3½	NONE
UN318437	6A	3FT-3½	PLYWOOD
UN318440	6A	3FT-3½	TRANSITE



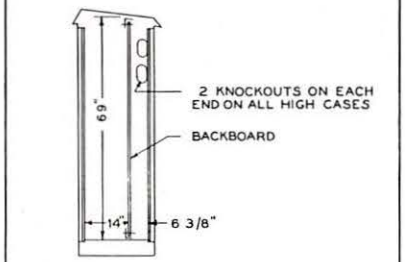
ORDERING REFERENCE D2638	SH.	SIZE	BACK BOARDS
UN318713	7A	2FT-7½	PLYWOOD
UN318714	7A	2FT-7½	TRANSITE
UN318439	6A	3FT-3½	PLYWOOD
UN318442	6A	3FT-3½	TRANSITE



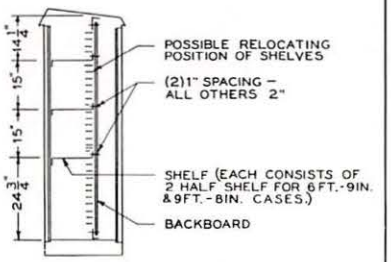
ORDERING REFERENCE D2638	SH.	SIZE	TAG & TERM. BOARD
UN318715	7A	2FT-7½	PLYWOOD
UN318716	7A	2FT-7½	TRANSITE
UN318717	6A	3FT-3½	PLYWOOD
UN318718	6A	3FT-3½	TRANSITE



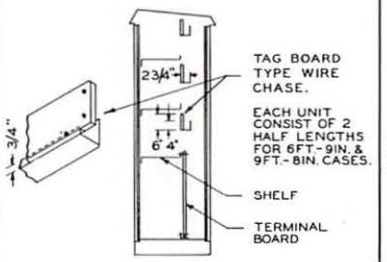
ORDERING REFERENCE D2638	SH.	SIZE	TERM. BOARD
UN318719	7A	2FT-7½	PLYWOOD
UN318720	7A	2FT-7½	TRANSITE
UN318721	6A	3FT-3½	PLYWOOD
UN318722	6A	3FT-3½	TRANSITE



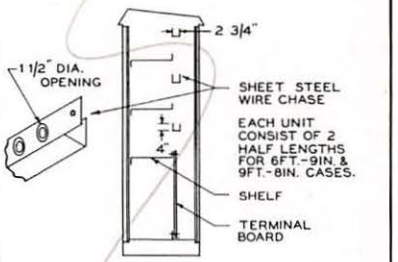
ORDERING REFERENCE D2638	SH.	SIZE	BACK BOARDS	NO. OF KNOCKOUTS IN BASE
UN293719-003	5	2FT-7½	NONE	3
UN307384	5A	2FT-7½	PLYWOOD	3
UN307414	5A	2FT-7½	TRANSITE	3
UN293718-003	4	3FT-3½	NONE	3
UN307372	4A	3FT-3½	PLYWOOD	3
UN307422	4A	3FT-3½	TRANSITE	3
UN292399-003	2	4FT-11	NONE	4
UN307359	2A	4FT-11	PLYWOOD	4
UN307426	2A	4FT-11	TRANSITE	4
UN292398-003	1	6FT-9	NONE	6
UN307388	1A	6FT-9	PLYWOOD	6
UN307430	1A	6FT-9	TRANSITE	6
UN292919-003	3	9FT-8	NONE	8
UN307394	3A	9FT-8	PLYWOOD	8
UN307434	3A	9FT-8	TRANSITE	8



ORDERING REFERENCE D2638	SH.	SIZE	BACK BOARDS	NO. OF KNOCKOUTS IN BASE
UN307387	5A	2FT-7½	PLYWOOD	3
UN307417	5A	2FT-7½	TRANSITE	3
UN307375	4A	3FT-3½	PLYWOOD	3
UN307425	4A	3FT-3½	TRANSITE	3
UN307362	2A	4FT-11	PLYWOOD	4
UN307429	2A	4FT-11	TRANSITE	4
UN307391	1A	6FT-9	PLYWOOD	6
UN307433	1A	6FT-9	TRANSITE	6
UN307397	3A	9FT-8	PLYWOOD	8
UN307437	3A	9FT-8	TRANSITE	8

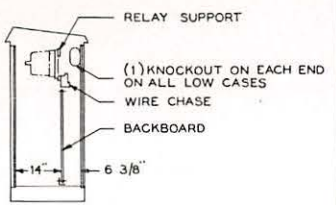


ORDERING REFERENCE D2638	SH.	SIZE	TAG & TERM. BOARDS	NO. OF KNOCKOUTS IN BASE
UN318723	5A	2FT-7½	PLYWOOD	3
UN318724	5A	2FT-7½	TRANSITE	3
UN318725	4A	3FT-3½	PLYWOOD	3
UN318726	4A	3FT-3½	TRANSITE	3
UN318727	2A	4FT-11	PLYWOOD	4
UN318728	2A	4FT-11	TRANSITE	4
UN318729	1A	6FT-9	PLYWOOD	6
UN318730	1A	6FT-9	TRANSITE	6
UN318731	3A	9FT-8	PLYWOOD	8
UN318732	3A	9FT-8	TRANSITE	8



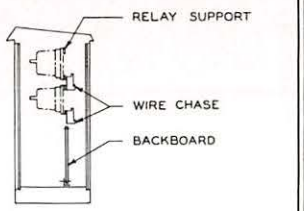
ORDERING REFERENCE D2638	SH.	SIZE	TERM. BOARDS	NO. OF KNOCKOUTS IN BASE
UN318733	5A	2FT-7½	PLYWOOD	3
UN318734	5A	2FT-7½	TRANSITE	3
UN318735	4A	3FT-3½	PLYWOOD	3
UN318736	4A	3FT-3½	TRANSITE	3
UN318737	2A	4FT-11	PLYWOOD	4
UN318738	2A	4FT-11	TRANSITE	4
UN318739	1A	6FT-9	PLYWOOD	6
UN318740	1A	6FT-9	TRANSITE	6
UN318741	3A	9FT-8	PLYWOOD	8
UN318742	3A	9FT-8	TRANSITE	8

Fig. 5 . . . Ordering References for Type RS Sheet Steel Cases.
(Cases Only, and with Backboards, Shelves, Wire Chases.)



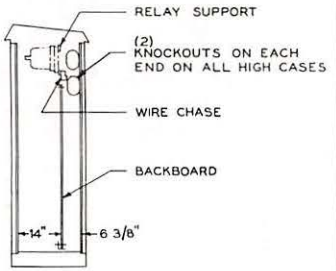
LOW CASE ARRANGED FOR ONE ROW OF PLUG-IN RELAYS (WALL MOUNTED)

ORDERING REFERENCE D2638	SH.	SIZE	BACKBOARD	MAX. NO. OF RELAYS
UN318743	7B	2FT-7½	PLYWOOD	7
UN318744	7B	2FT-7½	TRANSITE	7
UN318745	6B	3FT-3½	PLYWOOD	9
UN318746	6B	3FT-3½	TRANSITE	9



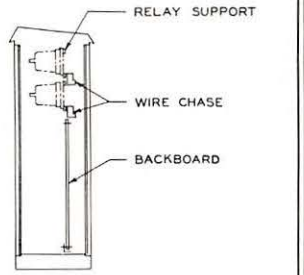
LOW CASE ARRANGED FOR TWO ROWS OF PLUG-IN RELAYS (WALL MOUNTED)

ORDERING REFERENCE D2638	SH.	SIZE	BACKBOARD	MAX. NO. OF RELAYS
UN318747	7B	2FT-7½	PLYWOOD	14
UN318748	7B	2FT-7½	TRANSITE	14
UN318749	6B	3FT-3½	PLYWOOD	18
UN318750	6B	3FT-3½	TRANSITE	18



HIGH CASE ARRANGED FOR ONE ROW OF PLUG-IN RELAYS (WALL MOUNTED)

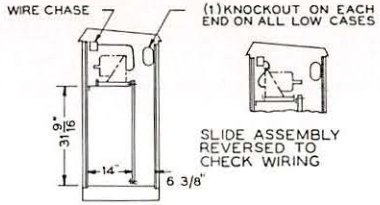
ORDERING REFERENCE D2638	SH.	SIZE	BACK BOARDS	NO. OF KNOCKOUTS IN BASE	MAX. NO. OF RELAYS
UN318751	5B	2FT-7½	PLYWOOD	3	7
UN318752	5B	2FT-7½	TRANSITE	3	7
UN318753	4B	3FT-3½	PLYWOOD	3	9
UN318754	4B	3FT-3½	TRANSITE	3	9
UN318755	2B	4FT-11	PLYWOOD	4	14
UN318756	2B	4FT-11	TRANSITE	4	14
UN318757	1B	6FT-9	PLYWOOD	6	18
UN318892	1B	6FT-9	TRANSITE	6	18
UN318893	3B	9FT-8	PLYWOOD	8	28
UN318894	3B	9FT-8	TRANSITE	8	28



HIGH CASE ARRANGED FOR TWO ROWS OF PLUG-IN RELAYS (WALL MOUNTED)

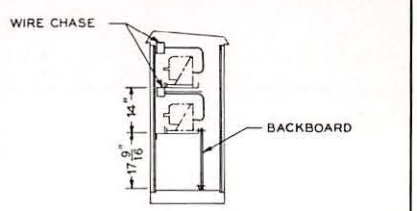
ORDERING REFERENCE D2638	SH.	SIZE	BACK BOARDS	NO. OF KNOCKOUTS IN BASE	MAX. NO. OF RELAYS
UN318895	5B	2FT-7½	PLYWOOD	3	14
UN318896	5B	2FT-7½	TRANSITE	3	14
UN318897	4B	3FT-3½	PLYWOOD	3	18
UN318898	4B	3FT-3½	TRANSITE	3	18
UN318899	2B	4FT-11	PLYWOOD	4	28
UN318900	2B	4FT-11	TRANSITE	4	28
UN318901	1B	6FT-9	PLYWOOD	6	36
UN318902	1B	6FT-9	TRANSITE	6	36
UN318903	3B	9FT-8	PLYWOOD	8	56
UN318904	3B	9FT-8	TRANSITE	8	56

Fig. 6 . . . Ordering References for Type RS Sheet Steel Cases Arranged for Plug-In Type Relays (Wall Mounted)



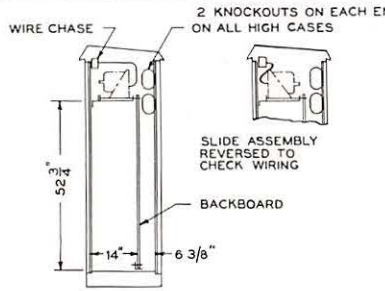
LOW CASE ARRANGED FOR ONE ROW OF PLUG-IN RELAYS (SLIDE-IN SHELF MOUNTED)

ORDERING REFERENCE D2638	SH.	SIZE	BACKBOARD	MAX. NO. OF RELAYS
UN318905	7C	2FT-7½	PLYWOOD	6
UN318906	7C	2FT-7½	TRANSITE	6
UN318907	6C	3FT-3½	PLYWOOD	8
UN318908	6C	3FT-3½	TRANSITE	8



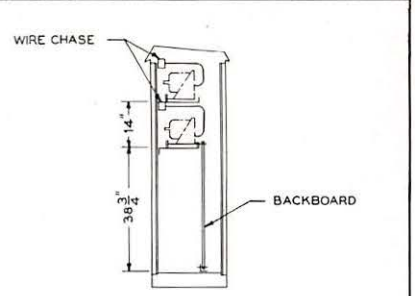
LOW CASE ARRANGED FOR TWO ROWS OF PLUG-IN RELAYS (SLIDE-IN SHELF MOUNTED)

ORDERING REFERENCE D2638	SH.	SIZE	BACKBOARD	MAX. NO. OF RELAYS
UN318909	7C	2FT-7½	PLYWOOD	12
UN318910	7C	2FT-7½	TRANSITE	12
UN318911	6C	3FT-3½	PLYWOOD	16
UN318912	6C	3FT-3½	TRANSITE	16



HIGH CASE ARRANGED FOR ONE ROW OF PLUG-IN RELAYS

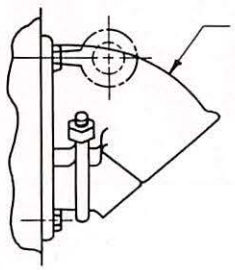
ORDERING REFERENCE D2638	SH.	SIZE	BACK BOARD	NO. OF KNOCKOUTS IN BASE	MAX. NO. OF RELAYS
UN318913	5C	2FT-7½	PLYWOOD	3	6
UN318914	5C	2FT-7½	TRANSITE	3	6
UN318915	4C	3FT-3½	PLYWOOD	3	8
UN318916	4C	3FT-3½	TRANSITE	3	8
UN318917	2C	4FT-11	PLYWOOD	4	14
UN318918	2C	4FT-11	TRANSITE	4	14
UN318919	1C	6FT-9	PLYWOOD	6	18
UN318920	1C	6FT-9	TRANSITE	6	18
UN318921	3C	9FT-8	PLYWOOD	8	28
UN318922	3C	9FT-8	TRANSITE	8	28



HIGH CASE ARRANGED FOR TWO ROWS OF PLUG-IN RELAYS

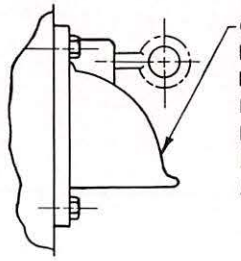
ORDERING REFERENCE D2638	SH.	SIZE	BACK BOARD	NO. OF KNOCKOUTS IN BASE	MAX. NO. OF RELAYS
UN318923	5C	2FT-7½	PLYWOOD	3	12
UN318924	5C	2FT-7½	TRANSITE	3	12
UN318925	4C	3FT-3½	PLYWOOD	3	16
UN318926	4C	3FT-3½	TRANSITE	3	16
UN318927	2C	4FT-11	PLYWOOD	4	28
UN318928	2C	4FT-11	TRANSITE	4	28
UN318929	1C	6FT-9	PLYWOOD	6	36
UN318930	1C	6FT-9	TRANSITE	6	36
UN318931	3C	9FT-8	PLYWOOD	8	56
UN318932	3C	9FT-8	TRANSITE	8	56

Fig. 7 . . . Ordering References for Type RS Sheet Steel Cases Arranged for Plug-In Type Relays (Slide-in Shelf Mounted)



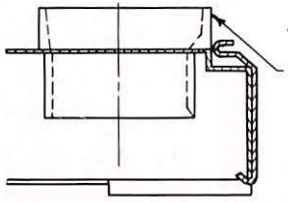
CABLE OUTLET (10 SQ. IN.) UN 192013 B10342-SH.81 (INCLUDES ASSEMBLY BOLTS). WHEN REQUIRED FURNISH EYE BOLT UM262665-SH.185-8034 & (1) 3/8" HEX. NUT UJ48009 (CAD. PL. CL.). EYE BOLT TO BE USED ONLY WHEN ENGINEERED FOR SHORT SPAN & SMALL LOADS.

OUTLET USED ON SIDES OF CASE



CABLE OUTLET (5.41 SQ. IN.) UN292840-B10342 SH.128 (INCLUDES ASSEMBLY BOLTS). WHEN REQUIRED FURNISH EYE BOLT UM31092-SH.104-8034. EYE BOLT TO BE USED ONLY WHEN ENGINEERED FOR SHORT SPANS & SMALL LOADS.

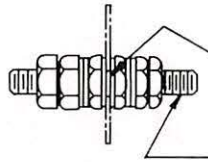
OUTLET USED ON SIDES OF CASE



WIRE OUTLET USED IN BASE

UM221710-B10342-SH.126 (AREA OF WIRE OPENING IS 13 SQ. IN.)

LOW CASES HAVE 3 KNOCKOUTS IN BASE, HIGH CASES AS TABULATED.

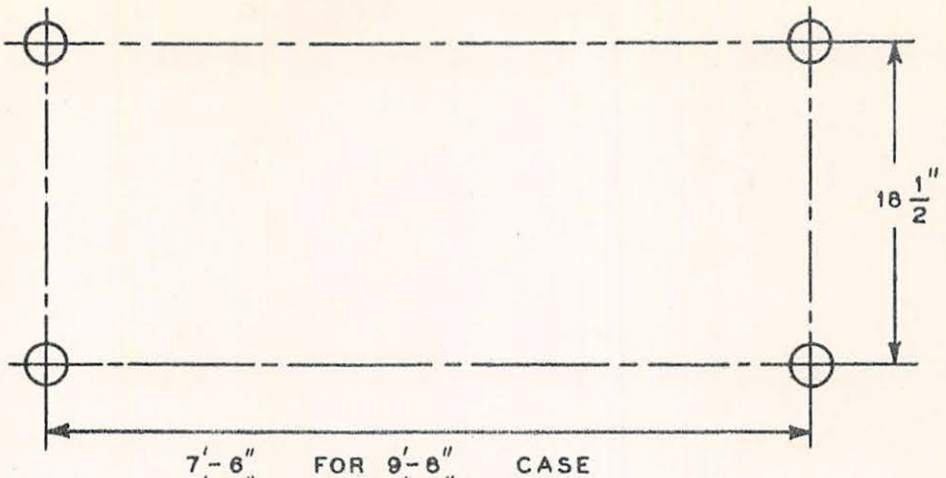


3/8" COPPER SILICON GROUND TERMINAL

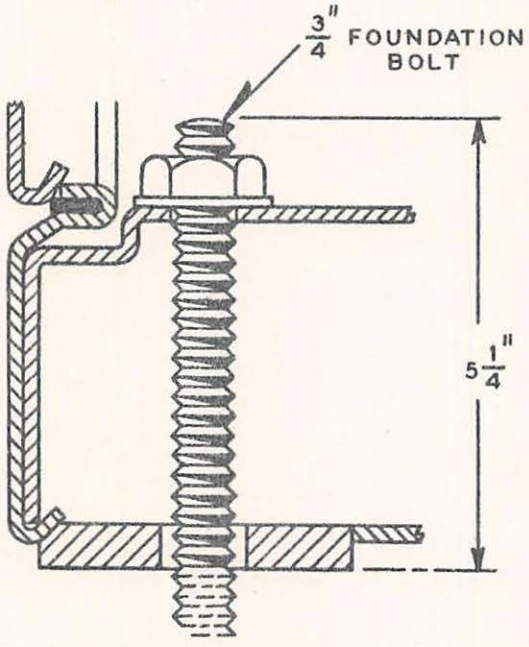
DRILL HOLE THRU WALL TO ASSEMBLE

UN 318933-SH.427-12451 (INCLUDES NUTS & WASHERS)

Fig. 8 . . . Ordering References for Ground Terminal, Wire Outlet used in Base, and Cable Outlets used in Sides.



FOUNDATION BOLT SPACING



FOUNDATION BOLT DETAIL

Fig. 9 . . . Placement of Foundation Bolts.